

L15 ANSWER 1 OF 9 USPATFULL  
 ACCESSION NUMBER: 1998:101636 USPATFULL  
 TITLE: Method of inhibiting the hyperproliferation of malignant cells  
 INVENTOR(S): Knutson, Joyce C., Madison, WI, United States  
 Bishop, Charles W., Verona, WI, United States  
 PATENT ASSIGNEE(S): Bone Care International, Inc., Madison, WI, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5798345	980825
APPLICATION INFO.:	US 95-486387	950607 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 94-265438, filed on	

24 Jun 1994 which is a continuation of Ser. No. US 92-886554, filed on 20 May 1992, now abandoned

which is a continuation-in-part of Ser. No. US 91-800045, filed

on 29 Nov 1991, now abandoned which is a

continuation of Ser. No. US 90-586854, filed on 21 Sep 1990,

now

abandoned

DOCUMENT TYPE:

PRIMARY EXAMINER: Robinson, Allen J.

ASSISTANT EXAMINER: Badio, Barbara

LEGAL REPRESENTATIVE: Welch, Teresa J. Stroud, Stroud, Willink, Thompson &

Howard

NUMBER OF CLAIMS:

18

EXEMPLARY CLAIM:

1

NUMBER OF DRAWINGS: 2 Drawing Figure(s); 2 Drawing Page(s)

LINE COUNT:

1016

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB 1.alpha.-hydroxy vitamin D.sub.4 and analogues, preferably 1,24 dihydroxy vitamin D.sub.4, which are useful as active compounds of pharmaceutical compositions for the inhibition of hyperproliferative activity of malignant cells.

IT 131249-38-2 143032-85-3 157893-62-4

(hydroxy vitamin D4 and analogs for malignant cell

hyperproliferation

inhibition, pharmaceutical and cosmetic compns., and prepn. of 5,6-cis-1.alpha.-hydroxy vitamin D4)

RN 131249-38-2 USPATFULL

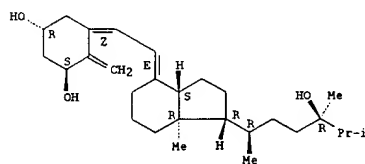
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,25-triol,

(1.alpha.,3.beta.,5Z,7E) -

(9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.

L15 ANSWER 1 OF 9 USPATFULL (Continued)



IT 186489-60-1P

(prepn. and reaction; hydroxy vitamin D4 and analogs for malignant cell hyperproliferation inhibition, pharmaceutical and cosmetic compns., and

prepn. of 5,6-cis-1.alpha.-hydroxy vitamin D4)

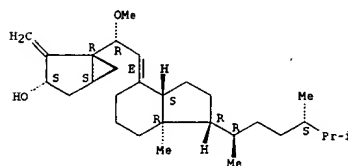
RN 186489-60-1 USPATFULL

CN Bicyclo[3.1.0]hexan-3-ol,

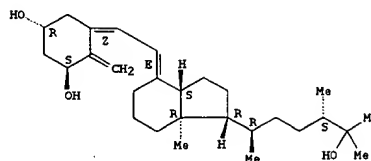
1-[(1R,2E)-1-methoxy-2-[(1R,3aS,7aR)-octahydro-

7a-methyl-1-[(1R,4S)-1,4,5-trimethylhexyl]-4H-inden-4-ylidene]ethyl]-2-methylene-, (1R,3S,5S) - (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.



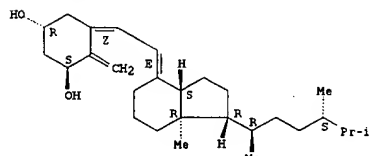
L15 ANSWER 1 OF 9 USPATFULL (Continued)



RN 143032-85-3 USPATFULL

CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol, (1.alpha.,3.beta.,5Z,7E) - (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.



RN 157893-62-4 USPATFULL

CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol, (1.alpha.,3.beta.,5Z,7E) - (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.

L15 ANSWER 2 OF 9 USPATFULL

ACCESSION NUMBER: 1998:98906 USPATFULL

TITLE: Method of treating prostatic diseases using delayed and/or sustained release vitamin D formulations  
 INVENTOR(S): Bishop, Charles W., Madison, WI, United States  
 Knutson, Joyce C., Madison, WI, United States  
 Valliere, Charles R., Waunakee, WI, United States  
 PATENT ASSIGNEE(S): Bone Care International, Inc., Madison, WI, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5795882	980818
APPLICATION INFO.:	US 96-775447	961230 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 95-485354, filed on	

7 Jun 1995, now patented, Pat. No. US 5614513

which is a division of Ser. No. US 94-196116, filed on 22

Feb 1994, now patented, Pat. No. US 5529991 which is a continuation-in-part of Ser. No. US 92-901886,

filed on 22 Jun 1992, now abandoned

DOCUMENT TYPE:

PRIMARY EXAMINER: Killow, Paul J.

LEGAL REPRESENTATIVE: Welch, Teresa J. Stroud, Stroud, Willink, Thompson & Howard

NUMBER OF CLAIMS:

24

EXEMPLARY CLAIM:

1

NUMBER OF DRAWINGS: 2 Drawing Figure(s); 2 Drawing Page(s)

LINE COUNT:

1546

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Method of treating prostatic conditions such as prostate cancer and hyperplasia by administering 1.alpha.-hydroxyvitamin D or

activated vitamin D or a combination thereof in a sustained release form or a delayed and sustained release formulation. Both the sustained

release form and the delayed, sustained release form deliver increased

active vitamin D blood levels without significant risk of hypercalcemia associated with other oral dosing of vitamin D forms, to provide the

beneficial effect to the diseased prostate tissue.

IT 131249-38-2, 1.alpha.,24-Dihydroxyvitamin D4 157893-62-4

(delayed and/or sustained-release vitamin D formulations for

treating

prostatic diseases)

RN 131249-38-2 USPATFULL

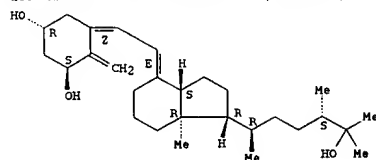
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,25-triol,

(1.alpha.,3.beta.,5Z,7E) -

(9CI) (CA INDEX NAME)

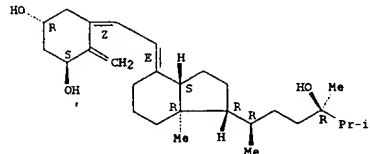
Absolute stereochemistry.  
 Double bond geometry as shown.

L15 ANSWER 2 OF 9 USPATFULL (Continued)



RN 157893-62-4 USPATFULL  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol,  
 (1.alpha.,3.beta.,5Z,7E)-  
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.



IT 143032-85-3, 1.alpha.-Hydroxyvitamin D4  
 (delayed and/or sustained-release vitamin D formulations for  
 treating  
 prostatic diseases)

RN 143032-85-3 USPATFULL  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol,  
 (1.alpha.,3.beta.,5Z,7E)-  
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.

L15 ANSWER 3 OF 9 USPATFULL

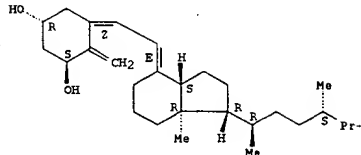
ACCESSION NUMBER: 1998:65212 USPATFULL  
 TITLE: Method of treating prostatic diseases using active  
 vitamin D analogues  
 INVENTOR(S): Bishop, Charles W., Madison, WI, United States  
 Knutson, Joyce C., Madison, WI, United States  
 Mazess, Richard B., Madison, WI, United States  
 PATENT ASSIGNEE(S): Bone Care International, Inc., Madison, WI, United  
 States (U.S. corporation)

NUMBER	DATE
US 5763429	980609
US 96-781910	961230 (8)
Continuation-in-part of Ser. No. US 95-415488, filed on 3 Apr 1995, now patented, Pat. No. US 5602116 which is a continuation-in-part of Ser. No. US 93-119895, filed on 10 Sep 1993, now patented, Pat. No. US 5403831 And a continuation-in-part of Ser. No. US 95-486387, filed on 7 Jun 1995, now patented, Pat. No. US 5674859 which is a continuation-in-part of Ser. No. US 94-265438, filed on 24 Jun 1994	
DOCUMENT TYPE:	Utility
PRIMARY EXAMINER:	Criares, Theodore J.
LEGAL REPRESENTATIVE:	Welch, Teresa J. Stroud, Stroud, Willink, Thompson & Howard

NUMBER OF CLAIMS: 9  
 EXEMPLARY CLAIM: 1  
 LINE COUNT: 923  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
 AB The invention provides therapeutic methods for inhibiting,  
 ameliorating  
 or alleviating the hyperproliferative cellular activity of  
 diseases of  
 the prostate, e.g., prostatic cancer and prostatic hyperplasia,  
 which  
 includes administering to a patient in need thereof an active  
 vitamin D  
 analogue. Cell differentiation is promoted, induced or enhanced  
 without  
 causing to the patient dose-limiting hypercalcemia and  
 hypercalciuria.  
 IT 131249-38-2, 1.alpha.,25-Dihydroxyvitamin D4 143032-85-3  
 , 1.alpha.-Hydroxyvitamin D4. 157893-62-4, 1.alpha.,24-  
 Dihydroxyvitamin D4  
 (prostatic diseases using active vitamin D analogs and anticancer  
 agents)

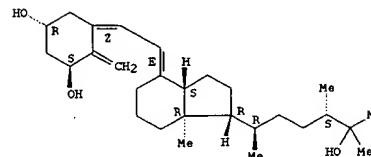
RN 131249-38-2 USPATFULL  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,25-triol,  
 (1.alpha.,3.beta.,5Z,7E)-

L15 ANSWER 2 OF 9 USPATFULL (Continued)



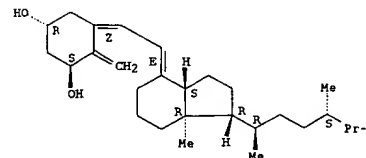
L15 ANSWER 3 OF 9 USPATFULL (Continued)

(9CI) (CA INDEX NAME)  
 Absolute stereochemistry.  
 Double bond geometry as shown.



RN 143032-85-3 USPATFULL  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol, (1.alpha.,3.beta.,5Z,7E)-  
 (9CI) (CA INDEX NAME)

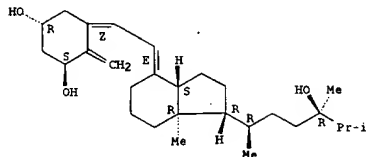
Absolute stereochemistry.  
 Double bond geometry as shown.



RN 157893-62-4 USPATFULL  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol,  
 (1.alpha.,3.beta.,5Z,7E)-  
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.

L15 ANSWER 3 OF 9 USPATFULL (Continued)

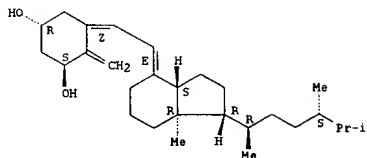


L15 ANSWER 4 OF 9 USPATFULL

ACCESSION NUMBER: 1998:65211 USPATFULL  
 TITLE: Methods of treating skin disorders with novel  
 1a-hydroxy vitamin D.sub.4 compounds and  
 derivatives thereof  
 INVENTOR(S): Knutson, Joyce C., Madison, WI, United States  
 Bishop, Charles W., Madison, WI, United States  
 PATENT ASSIGNEE(S): Bone Care International, Inc., Madison, WI, United  
 States (U.S. corporation)

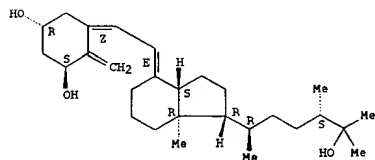
	NUMBER	DATE
PATENT INFORMATION:	US 5763428	980609
APPLICATION INFO.:	US 95-484342	950607 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 94-265438, filed on 24 Jun 1994 which is a continuation of Ser. No. US 92-886554, filed on 20 May 1992, now abandoned	
which is	a continuation-in-part of Ser. No. US 91-800045, filed on 29 Nov 1991, now abandoned which is a continuation of Ser. No. US 90-586854, filed on 21 Sep 1990, now abandoned	
DOCUMENT TYPE:	Utility	
PRIMARY EXAMINER:	Prior, Kimberly J.	
LEGAL REPRESENTATIVE:	Welch, Teresa J. Stroud, Stroud, Willink, Thompson & Howard	
NUMBER OF CLAIMS:	21	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	2 Drawing Figure(s); 2 Drawing Page(s)	
LINE COUNT:	1035	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		
AB The disclosure is of methods of treating various skin disorders, including skin cancer, with compounds of novel 1.alpha.-hydroxy vitamin D.sub.4 and novel analogues, thereof, including 1,25 dihydroxy vitamin D.sub.4 and 1,24 dihydroxy vitamin D.sub.4. Novel 1.alpha.-hydroxy vitamin D.sub.4 compounds and compounds of novel analogues suitable for use in the treatment of such disorders are also disclosed herein.		
IT	143032-85-3P (prepn. and treating hyperproliferative skin disorders with novel 1a-hydroxy vitamin D4 derivs.)	
RN	143032-85-3 USPATFULL	
CN	9,10-Secoergosta-5,7,10(19)-triene-1,3-diol, (1.alpha.,3.beta.,5Z,7E)- (9CI) (CA INDEX NAME)	
Absolute stereochemistry. Double bond geometry as shown.		

L15 ANSWER 4 OF 9 USPATFULL (Continued)



IT 131249-38-2P 157893-62-4P  
 (prepn. and treating hyperproliferative skin disorders with novel  
 1a-hydroxy vitamin D4 derivs.)  
 RN 131249-38-2 USPATFULL  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,25-triol,  
 (1.alpha.,3.beta.,5Z,7E)-  
 (9CI) (CA INDEX NAME)

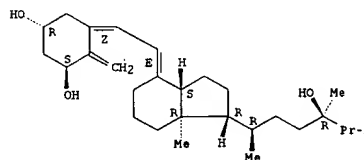
Absolute stereochemistry.  
 Double bond geometry as shown.



RN 157893-62-4 USPATFULL  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol,  
 (1.alpha.,3.beta.,5Z,7E)-  
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.

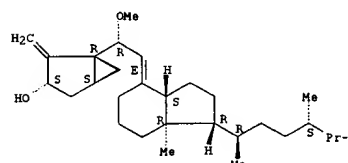
L15 ANSWER 4 OF 9 USPATFULL (Continued)



IT 186489-60-1P, 1.alpha.-Hydroxy-3,5-cyclovitamin D4  
 (prepn. and treating hyperproliferative skin disorders with novel  
 1a-hydroxy vitamin D4 derivs.)  
 RN 186489-60-1 USPATFULL  
 CN Bicyclo[3.1.0]hexan-3-ol,  
 1-[(1R,2E)-1-methoxy-2-[(1R,3aS,7aR)-octahydro-

7a-methyl-1-[(1R,4S)-1,4,5-trimethylhexyl]-4H-inden-4-ylidene]ethyl]-2-  
 methylene-, (1R,3S,5S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.



L15 ANSWER 5 OF 9 USPATFULL  
 ACCESSION NUMBER: 97:120607 USPATFULL  
 TITLE: Prevention and treatment of myocardial failure  
 INVENTOR(S): Gulbrandsen, Carl E., Madison, WI, United States  
 Moss, Richard L., Middleton, WI, United States  
 PATENT ASSIGNEE(S): Bone Care International, Inc., Madison, WI, United States (U.S. corporation)

NUMBER	DATE
US 5700790	971223
US 96-588067	960117 (8)

Continuation of Ser. No. US 94-311934, filed on 26 Sep

1994, now abandoned which is a continuation of  
 Ser. No. US 93-10823, filed on 29 Jan 1993, now patented,

Pat. No. US 5350745  
 DOCUMENT TYPE: Utility  
 PRIMARY EXAMINER: Jarvis, William R. A.  
 LEGAL REPRESENTATIVE: Welch, Teresa J. Stroud, Stroud, Willink, Thompson & Howard

NUMBER OF CLAIMS: 7  
 EXEMPLARY CLAIM: 1  
 LINE COUNT: 270

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Method of increasing the strength of contraction in the mammalian heart

muscle by administering to the mammal an effective amount of an activated Vitamin D compound, i.e. a 1.alpha.-hydroxylated Vitamin

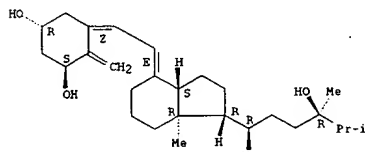
D compound which binds with the Vitamin D receptor and produces a positive inotropic effect in the heart muscle. The activated Vitamin-D compound may be given as a means to prevent myocardial failure or to treat myocardial failure.

IT 131249-38-2 143032-85-3 157893-62-4  
 (myocardial failure treatment with)

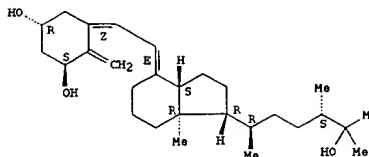
RN 131249-38-2 USPATFULL  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,25-triol,  
 (1.alpha.,3.beta.,5Z,7E)-  
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.

L15 ANSWER 5 OF 9 USPATFULL (Continued)

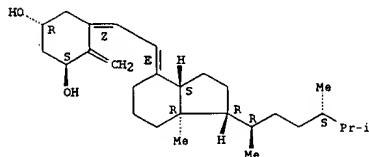


L15 ANSWER 5 OF 9 USPATFULL (Continued)



RN 143032-85-3 USPATFULL  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol, (1.alpha.,3.beta.,5Z,7E)-  
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.



RN 157893-62-4 USPATFULL  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol,  
 (1.alpha.,3.beta.,5Z,7E)-  
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.

L15 ANSWER 6 OF 9 USPATFULL

ACCESSION NUMBER: 97:12454 USPATFULL  
 TITLE: Method for treating and preventing secondary hyperparathyroidism  
 INVENTOR(S): Knutson, Joyce C., Madison, WI, United States  
 Bishop, Charles W., Verona, WI, United States  
 Mazess, Richard B., Madison, WI, United States  
 PATENT ASSIGNEE(S): Bone Care International, Inc., Madison, WI, United States (U.S. corporation)

NUMBER	DATE
US 5602116	970211
US 95-415488	950403 (8)

Continuation-in-part of Ser. No. US 93-119895, filed on

10 Sep 1993, now patented, Pat. No. US 5403831  
 which is a continuation of Ser. No. US 92-812056, filed on 5 Mar

1992, now abandoned which is a continuation of

Ser. No. US 90-569412, filed on 17 Aug 1990, now patented,

Pat. No. US 5104864 which is a continuation of Ser. No. US

88-227371, filed on 2 Aug 1988, now abandoned

DOCUMENT TYPE: Utility  
 PRIMARY EXAMINER: Criares, Theodore J.  
 LEGAL REPRESENTATIVE: Welch, Teresa J. Stroud, Stroud, Willink, Thompson & Howard

NUMBER OF CLAIMS: 9  
 EXEMPLARY CLAIM: 1  
 LINE COUNT: 822

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method for preventing loss of bone mass or bone mineral content in a

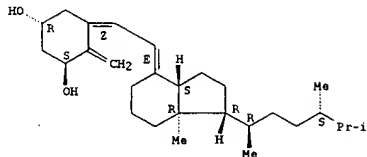
human being suffering from secondary hyperparathyroidism by administering a sufficient amount of 1.alpha.-OH vitamin D.sub.2, 1.alpha.,24(S)-(OH).sub.2 vitamin D.sub.2, 1.alpha.-OH vitamin D.sub.4

or 1.alpha.,24(R)-(OH).sub.2 vitamin D.sub.4.  
 IT 143032-85-3, 1.alpha.-Hydroxy vitamin d4 157893-62-4  
 (vitamin D formulations for treating and preventing secondary hyperparathyroidism)

RN 143032-85-3 USPATFULL  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol, (1.alpha.,3.beta.,5Z,7E)-  
 (9CI) (CA INDEX NAME)

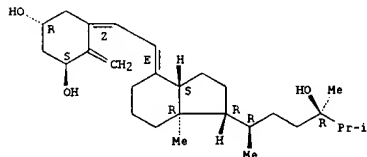
Absolute stereochemistry.  
 Double bond geometry as shown.

L15 ANSWER 6 OF 9 USPATFULL (Continued)



RN 157893-62-4 USPATFULL  
 CN 9,10-Secosterosta-5,7,10(19)-triene-1,3,24-triol,  
 (1.alpha.,3.beta.,5Z,7E)  
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.



L15 ANSWER 7 OF 9 USPATFULL

ACCESSION NUMBER: 96:55748 USPATFULL  
 TITLE: Oral 1.alpha.-hydroxyxprevitamin D  
 INVENTOR(S): Knutson, Joyce C., Madison, WI, United States  
 Valliere, Charles R., Waunakee, WI, United States  
 Bishop, Charles W., Verona, WI, United States  
 PATENT ASSIGNEE(S): Lunar Corporation, Madison, WI, United States (U.S. corporation)

NUMBER	DATE
US 5529991	960625
US 94-196116	940222 (8)

PATENT INFORMATION: US 5529991 960625  
 APPLICATION INFO.: US 94-196116 940222 (8)  
 RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 92-901886,  
 filed on

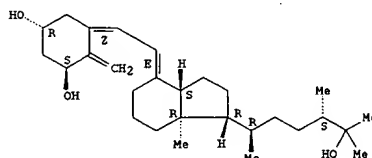
DOCUMENT TYPE: Utility  
 PRIMARY EXAMINER: Killos, Paul J.  
 LEGAL REPRESENTATIVE: Welch, Teresa J. Stroud, Stroud, Willink, Thompson & Howard

NUMBER OF CLAIMS: 22  
 EXEMPLARY CLAIM: 1  
 LINE COUNT: 1131

CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
 AB This invention relates to delayed and sustained release oral  
 medicaments  
 and, more specifically, to delayed and sustained release activated  
 vitamin D, oral medicament.

IT 131249-38-2, 1.alpha.,25-Dihydroxy vitamin D4 143032-85-3  
 , 1.alpha.-Hydroxy vitamin D4 157893-62-4  
 (enteric-coated sustained-release oral dosage forms for vitamin D)  
 RN 131249-38-2 USPATFULL  
 CN 9,10-Secosterosta-5,7,10(19)-triene-1,3,25-triol,  
 (1.alpha.,3.beta.,5Z,7E)  
 (9CI) (CA INDEX NAME)

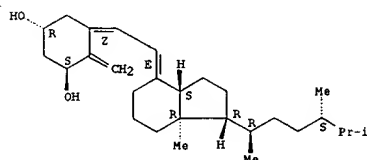
Absolute stereochemistry.  
 Double bond geometry as shown.



RN 143032-85-3 USPATFULL

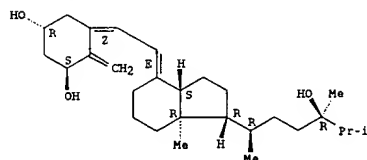
L15 ANSWER 7 OF 9 USPATFULL (Continued)  
 CN 9,10-Secosterosta-5,7,10(19)-triene-1,3-diol,  
 (1.alpha.,3.beta.,5Z,7E)  
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.



RN 157893-62-4 USPATFULL  
 CN 9,10-Secosterosta-5,7,10(19)-triene-1,3,24-triol,  
 (1.alpha.,3.beta.,5Z,7E)  
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.



L15 ANSWER 8 OF 9 USPATFULL

ACCESSION NUMBER: 94:84252 USPATFULL  
 TITLE: Treatment of myocardial failure  
 INVENTOR(S): Gulbrandsen, Carl E., Madison, WI, United States  
 Moss, Richard L., Middleton, WI, United States  
 PATENT ASSIGNEE(S): Lunar Corporation, Madison, WI, United States (U.S. corporation)

NUMBER	DATE
US 5350745	940927
US 93-10823	930129 (8)

PATENT INFORMATION: US 5350745 940927  
 APPLICATION INFO.: US 93-10823 930129 (8)  
 DOCUMENT TYPE: Utility  
 PRIMARY EXAMINER: Cintins, Marianne M.  
 ASSISTANT EXAMINER: Jarvis, William R. A.  
 LEGAL REPRESENTATIVE: Stroud, Stroud, Willink, Thompson & Howard

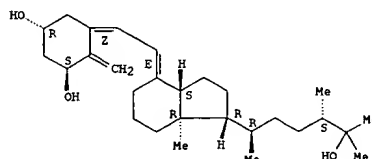
NUMBER OF CLAIMS: 4  
 EXEMPLARY CLAIM: 1  
 LINE COUNT: 246

CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
 AB Method of increasing the strength of contraction in the mammalian  
 heart

muscle by administering to the mammal an effective amount of an  
 activated Vitamin D compound, i.e. a 1.alpha.-hydroxylated Vitamin D  
 compound which binds with the Vitamin D receptor and produces a  
 positive inotropic effect in the heart muscle. The activated Vitamin D  
 compound may be given as a means to treat myocardial failure.

IT 131249-38-2 143032-85-3 157893-62-4  
 (myocardial failure treatment with)  
 RN 131249-38-2 USPATFULL  
 CN 9,10-Secosterosta-5,7,10(19)-triene-1,3,25-triol,  
 (1.alpha.,3.beta.,5Z,7E)  
 (9CI) (CA INDEX NAME)

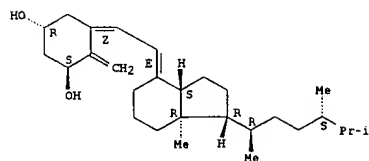
Absolute stereochemistry.  
 Double bond geometry as shown.



RN 143032-85-3 USPATFULL  
 CN 9,10-Secosterosta-5,7,10(19)-triene-1,3-diol, (1.alpha.,3.beta.,5Z,7E)  
 (9CI) (CA INDEX NAME)

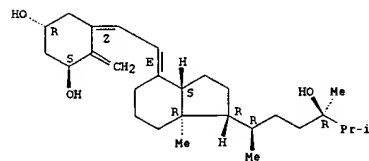
Absolute stereochemistry.

L15 ANSWER 8 OF 9 USPATFULL (Continued)  
Double bond geometry as shown.



RN 157893-62-4 USPATFULL  
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol,  
(1.alpha.,3.beta.,5Z,7E)-  
(9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.



L15 ANSWER 9 OF 9 USPATFULL

ACCESSION NUMBER: 92:87065 USPATFULL  
TITLE: 1.alpha.,25-dihydroxyvitamin D4 compounds,  
ergosta-5,7-diene compounds and processes for the  
preparation thereof  
INVENTOR(S): Tsuji, Masahiro, Kawagoe, Japan  
Tachibana, Yoji, Kawagoe, Japan  
Yokoyama, Shinji, Chi, Japan  
Ikekawa, Nobuo, Musashino, Japan  
PATENT ASSIGNEE(S): Nissin Flour Milling Co., Ltd., Tokyo, Japan  
(non-U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5157135	921020
APPLICATION INFO.:	US 90-496862	900321 (7)
DISCLAIMER DATE:	20090211	

	NUMBER	DATE
PRIORITY INFORMATION:	JP 89-78110	890331
DOCUMENT TYPE:	Utility	
PRIMARY EXAMINER:	Bond, Robert T.	
ASSISTANT EXAMINER:	Ward, E. C.	
LEGAL REPRESENTATIVE:	Abelman, Frayne & Schwab	
NUMBER OF CLAIMS:	1	
EXEMPLARY CLAIM:	1	
LINE COUNT:	787	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

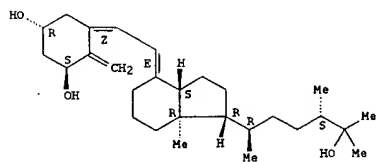
AB (24S)- and (24R)-1.alpha.,25-dihydroxyvitamin D.sub.4 compounds and processes for preparing same. Ergosta-5,7-diene compounds which are useful intermediates in the synthesis of the 1.alpha.,25-dihydroxyvitamin D.sub.4 compounds. The D.sub.4 compounds are expected to possess an interesting pharmacological activity in association with the active-type vitamins D.sub.3 and D.sub.2.

IT 131249-38-2P  
(prepn. of, via isomerization of ergostadienetriol deriv.)

RN 131249-38-2 USPATFULL  
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,25-triol,  
(1.alpha.,3.beta.,5Z,7E)-  
(9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.

L15 ANSWER 9 OF 9 USPATFULL (Continued)



=> file caplus

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	ENTRY	SESSION
FULL ESTIMATED COST	40.96	146.28
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FILE COVERS 1967 - 1 Feb 1999 VOL 130 ISS 6  
 FILE LAST UPDATED: 1 Feb 1999 (19990201/ED)

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ABS ----- GI and AB  
 ALL ----- BIB, AB, IND  
 APPS ----- AI, PRAI  
 BIB ----- AN, plus Bibliographic Data and PI table (default)  
 CAN ----- List of CA abstract numbers without answer numbers  
 CBIB ----- AN, plus Compressed Bibliographic Data  
 DALL ----- ALL, delimited (end of each field identified)  
 DMAX ----- MAX, delimited for post-processing  
 FAM ----- AN, PI and PRAI in table, plus Patent Family data  
 FBIB ----- AN, BIB, plus Patent FAM  
 IND ----- Indexing data  
 IPC ----- International Patent Classifications  
 MAX ----- ALL, plus Patent FAM  
 PATS ----- PI, SO  
 SAM ----- CC, SX, TI, ST, IT  
 SCAN ----- CC, SX, TI, ST, IT (random display, no answer numbers;  
                   SCAN must be entered on the same line as the DISPLAY,  
                   e.g., D SCAN or DISPLAY SCAN)  
 STD ----- BIB, IPC, and NCL  
  
 IABS ----- ABS, indented with text labels  
 IALL ----- ALL, indented with text labels  
 IBIB ----- BIB, indented with text labels  
 IMAX ----- MAX, indented with text labels  
 ISTD ----- STD, indented with text labels  
  
 OBIB ----- AN, plus Bibliographic Data (original)  
 OIBIB ----- OBIB, indented with text labels  
  
 HIT ----- Fields containing hit terms  
 HITIND ----- IC, ICA, ICI, NCL, CC and index field (ST and IT)  
                   containing hit terms  
 HITRN ----- HIT RN and its text modification  
 HITSTR ----- HIT RN, its text modification, its CA index name, and  
                   its structure diagram  
 FHITSTR ----- First HIT RN, its text modification, its CA index name, and  
                   its structure diagram



KWIC ----- Hit term plus 20 words on either side  
OCC ----- Number of occurrence of hit term and field in which it occurs

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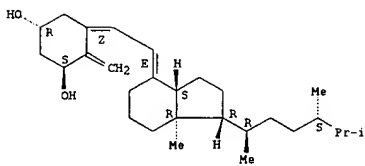
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L13 ANSWER 1 OF 11 CAPLUS COPYRIGHT 1999 ACS  
 ACCESSION NUMBER: 1998:582860 CAPLUS  
 DOCUMENT NUMBER: 129:197986  
 TITLE: Method of inhibiting the hyperproliferation of malignant cells with 1.alpha.-hydroxy vitamin D4 and analogs, pharmaceutical and cosmetic compositions, and preparation of 5,6-cis-1.alpha.-hydroxy vitamin D4  
 INVENTOR(S): Knutson, Joyce C.; Bishop, Charles W.  
 PATENT ASSIGNEE(S): Bone Care International, Inc., USA  
 SOURCE: U.S., 12 pp. Cont.-in-part of U.S. Ser. No. 265,438.  
 CODEN: USXKAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 10  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5798345	A	19980825	US 95-486387	19950607
US 5488120	A	19960130	US 94-296084	19940824
US 5801164	A	19980901	US 95-480310	19950607
US 5756783	A	19980526	US 95-524889	19950907
WO 9640153	A1	19961219	WO 96-US9221	19960606

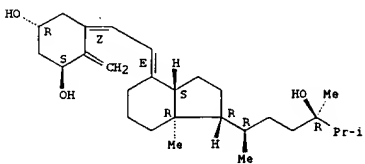
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 AU 9663791 A1 19961230 AU 96-63791 19960606  
 EP 831839 A1 19980401 EP 96-923223 19960606  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI  
 CN 1186435 A 19980701 CN 96-194460 19960606  
 US 5763429 A 19980609 US 96-781910 19961230  
 CA 2222593 AA 19961219 CA 97-2222593 19970606  
 US 50-586854 19900921  
 US 31-800045 19911129  
 US 92-886554 19920520  
 US 94-265438 19940624  
 US 92-827173 19920129  
 US 92-991493 19921217  
 US 93-119895 19930910

L13 ANSWER 1 OF 11 CAPLUS COPYRIGHT 1999 ACS (Continued)

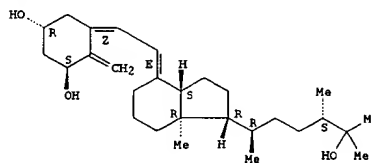


RN 157893-62-4 CAPLUS  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol, (1.alpha.,3.beta.,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.



L13 ANSWER 1 OF 11 CAPLUS COPYRIGHT 1999 ACS (Continued)  
 US 94-261730 19940617  
 US 95-415488 19950403  
 US 95-486387 19950607  
 WO 96-US9221 19960606  
 AB 1.alpha.-Hydroxy vitamin D4 and analogs, preferably 1,24 dihydroxy vitamin D4 are useful as active compds. of pharmaceutical compns. for the inhibition of hyperproliferative activity of malignant cells. Prepn. of 5,6-cis-1.alpha.-hydroxy vitamin D4 is described.  
 IT 131249-38-2 143032-85-3 157893-62-4  
 RL: BAC (Biological activity or effector, except adverse); THV (Therapeutic use); BIOL (Biological study); USES (Uses) (hydroxy vitamin D4 and analogs for malignant cell hyperproliferation inhibition, pharmaceutical and cosmetic compns., and prepn. of 5,6-cis-1.alpha.-hydroxy vitamin D4)  
 RN 131249-38-2 CAPLUS  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,25-triol, (1.alpha.,3.beta.,5Z,7E)- (9CI) (CA INDEX NAME)  
 Absolute stereochemistry.  
 Double bond geometry as shown.



RN 143032-85-3 CAPLUS  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol, (1.alpha.,3.beta.,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.

L13 ANSWER 2 OF 11 CAPLUS COPYRIGHT 1999 ACS  
 ACCESSION NUMBER: 1998:564197 CAPLUS  
 DOCUMENT NUMBER: 129:170519  
 TITLE: Method of treating prostatic diseases using and/or sustained-release vitamin D formulations  
 INVENTOR(S): Bishop, Charles W.; Knutson, Joyce C.; Valliere, Charles R.  
 PATENT ASSIGNEE(S): Bone Care International, Inc., USA  
 SOURCE: U.S., 17 pp. Cont.-in-part of U. S. 5,614,513.  
 CODEN: USXKAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 4  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5795882	A	19980818	US 96-775447	19961230
US 5529991	A	19960625	US 94-196116	19940222
US 5614513	A	19970325	US 95-485354	19950607
WO 9829105	A2	19980709	WO 97-US22034	19971210
WO 9829105	A3	19981015		

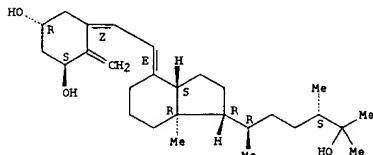
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 RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG  
 AU 9878883 A1 19980731 AU 98-78883 19971210

PRIORITY APPLN. INFO.:  
 US 92-901886 19920622  
 US 94-196116 19940222  
 US 95-485354 19950607  
 US 96-775447 19961230  
 WO 97-US22034 19971210  
 AB A method of treating prostatic conditions such as prostate cancer and hyperplasia involves administering 1.alpha.-hydroxyvitamin D or activated vitamin D or a combination thereof in a sustained-release form or a delayed and sustained-release formulation. Both the sustained-release form and the delayed, sustained-release form deliver increased active vitamin D blood levels without significant risk of hypercalcemia assocd. with other oral dosing of vitamin D forms, to provide the beneficial effect to the diseased prostate tissue.  
 Patients with advanced androgen-independent prostate cancer were treated orally with 1.alpha.,24-dihydroxyvitamin D2.  
 IT 131249-38-2, 1.alpha.,25-Dihydroxyvitamin D4 157893-62-4, 1.alpha.,24-Dihydroxyvitamin D4  
 RL: BAC (Biological activity or effector, except adverse); EPR (Biological

L13 ANSWER 2 OF 11 CAPLUS COPYRIGHT 1999 ACS (Continued)  
process); THU (Therapeutic use); BIOL (Biological study); PROC  
(Process); USES (Uses)  
(delayed and/or sustained-release vitamin D formulations for

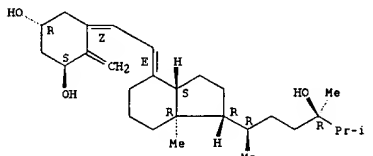
treating  
prostatic diseases)  
RN 131249-38-2 CAPLUS  
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,25-triol,  
(1.alpha.,3.beta.,5Z,7E)-  
(9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.



RN 157893-62-4 CAPLUS  
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol,  
(1.alpha.,3.beta.,5Z,7E)-  
(9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.



IT 143032-85-3, 1.alpha.-Hydroxyvitamin D4  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(delayed and/or sustained-release vitamin D formulations for  
treating  
prostatic diseases)

L13 ANSWER 3 OF 11 CAPLUS COPYRIGHT 1999 ACS  
ACCESSION NUMBER: 1998:405433 CAPLUS  
DOCUMENT NUMBER: 129,49645  
TITLE: Methods of treating skin disorders with novel  
1a-hydroxy vitamin D4 compounds  
INVENTOR(S): Knutson, Joyce C.; Bishop, Charles W.  
PATENT ASSIGNEE(S): Bone Care International, Inc., USA  
SOURCE: U.S., 12 pp. Cont.-in-part of U.S. Ser. No.  
265,438.

CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 10  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5763428	A	19980609	US 95-484342	19950607
US 5488120	A	19960130	US 94-296084	19940824
US 5801164	A	19980901	US 95-480310	19950607
US 5756783	A	19980526	US 95-524889	19950907
WO 9640154	A1	19961219	WO 96-US9222	19960606

W: AM, AT, AU, BE, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES,  
FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LU, LV,  
MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK,  
TJ, TM, TT  
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB,  
GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN,  
ML, MR, NE, SN, TD, TG  
CA 2222591 AA 19961219 CA 96-2222591 19960606  
AU 9662569 A1 19961230 AU 96-62569 19960606  
EP 831838 A1 19980401 EP 96-921322 19960606  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE,

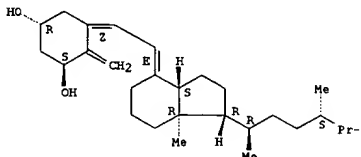
FI  
PRIORITY APPLN. INFO.: US 90-586854 19900921  
US 91-800045 19911129  
US 92-886554 19920520  
US 94-265438 19940624  
US 92-827173 19920129  
US 92-991493 19921217  
US 94-261730 19940617  
US 95-484342 19950607  
WO 96-US9222 19960606

AB Various skin disorders, including skin cancer, are treated with  
1.alpha.-hydroxy vitamin D4 and its analogs, including 1,25-dihydroxy  
vitamin D4 and 1,24-dihydroxy vitamin D4. The compds. were prepd.  
from  
ergosterol in a multi-step synthesis. They do not induce  
hypercalcemia.

IT 143032-85-3p  
RL: BAC (Biological activity or effector, except adverse); RCT  
(Reactant);

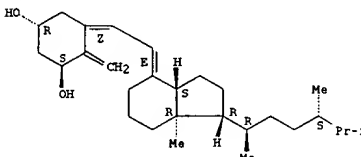
L13 ANSWER 2 OF 11 CAPLUS COPYRIGHT 1999 ACS (Continued)  
RN 143032-85-3 CAPLUS  
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol, (1.alpha.,3.beta.,5Z,7E)-  
(9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.



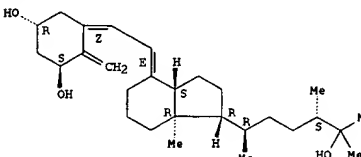
L13 ANSWER 3 OF 11 CAPLUS COPYRIGHT 1999 ACS (Continued)  
SPN (Synthetic preparation); THU (Therapeutic use); BIOL  
(Biological study); PREP (Preparation); USES (Uses)  
(prepn. and treating hyperproliferative skin disorders with novel  
1a-hydroxy vitamin D4 derivs.)  
RN 143032-85-3 CAPLUS  
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol, (1.alpha.,3.beta.,5Z,7E)-  
(9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.



IT 131249-38-2P 157893-62-4P  
RL: BAC (Biological activity or effector, except adverse); SPN  
(Synthetic  
preparation); THU (Therapeutic use); BIOL (Biological study);  
PREP (Preparation); USES (Uses)  
(prepn. and treating hyperproliferative skin disorders with novel  
1a-hydroxy vitamin D4 derivs.)  
RN 131249-38-2 CAPLUS  
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,25-triol,  
(1.alpha.,3.beta.,5Z,7E)-  
(9CI) (CA INDEX NAME)

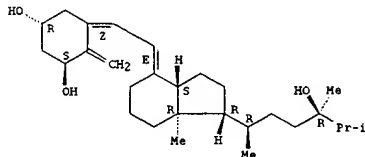
Absolute stereochemistry.  
Double bond geometry as shown.



RN 157893-62-4 CAPLUS  
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol,  
(1.alpha.,3.beta.,5Z,7E)-  
(9CI) (CA INDEX NAME)

L13 ANSWER 3 OF 11 CAPLUS COPYRIGHT 1999 ACS (Continued)

Absolute stereochemistry.  
Double bond geometry as shown.



L13 ANSWER 4 OF 11 CAPLUS COPYRIGHT 1999 ACS

ACCESSION NUMBER: 1998:397781 CAPLUS  
DOCUMENT NUMBER: 129:49643  
TITLE: Method of treating prostatic diseases using active vitamin D analogs  
INVENTOR(S): Bishop, Charles W.; Knutson, Joyce C.; Mazess, Richard  
PATENT ASSIGNEE(S): B. Bone Care International, Inc., USA  
SOURCE: U.S., 10 pp. Cont.-in-part of U. S. 5,602,116. CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 10  
PATENT INFORMATION:

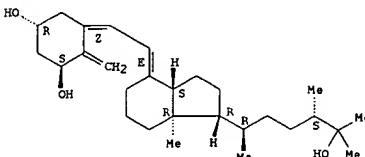
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US 5403831	A	19950404	US 93-119895	19930910
US 5602116	A	19970211	US 95-415488	19950403
US 5798345	A	19980825	US 95-486387	19950607
WO 9829123	A1	19980709	WO 97-US22450	19971210

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RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG  
AU 9855956 A1 19980731 AU 98-55956 19971210  
PRIORITY APPLN. INFO.: US 93-119895 19930910  
US 94-265438 19940624  
US 95-415488 19950403  
US 95-486387 19950607  
US 98-227371 19980802  
US 90-569412 19900817  
US 90-586854 19900921  
US 91-800045 19911129  
US 91-812056 19911217  
US 92-812056 19920305  
US 92-886554 19920520  
US 96-781910 19961230  
WO 97-US22450 19971210

OTHER SOURCE(S): MARPAT 129:49643  
AB The invention provides therapeutic methods for inhibiting, ameliorating or alleviating the hyperproliferative cellular activity of diseases of the

L13 ANSWER 4 OF 11 CAPLUS COPYRIGHT 1999 ACS (Continued)  
prostate, e.g., prostatic cancer and prostatic hyperplasia, which includes administering to a patient in need thereof an active vitamin D analog.  
Cell differentiation is promoted, induced or enhanced without causing to the patient dose-limiting hypercalcemia and hypercalciuria. The compd. or its in vivo metabolite shows a vitamin D receptor binding affinity substantially equiv. to the binding affinity of 1.alpha.,25-dihydroxyvitamin D3 and a hypercalcemia risk substantially lower than that of 1.alpha.,25-dihydroxyvitamin D3. Patients with advanced androgen-independent prostate cancer began a course of therapy with 1.alpha.,24-dihydroxy vitamin D2 (I). The maximal tolerated dosage (MTD) of daily oral I was detd. by administering progressively higher dosages to patients. The MTD for I was above 20.0 mg/day, a level which is 10- to 40-fold higher than that of 1.alpha.,25-(OH)2D3 and patients treated with the MTD of I for at least 6 mo reported that bone pain assocd. with metastatic disease was significantly diminished.  
IT 131249-38-2, 1.alpha.,25-Dihydroxyvitamin D4 143032-85-3, 1.alpha.-Hydroxyvitamin D4. 157893-62-4, 1.alpha.,24-Dihydroxyvitamin D4  
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (prostatic diseases using active vitamin D analogs and anticancer agents)  
RN 131249-38-2 CAPLUS  
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,25-triol, (1.alpha.,3.beta.,5Z,7E)-(9CI) (CA INDEX NAME)

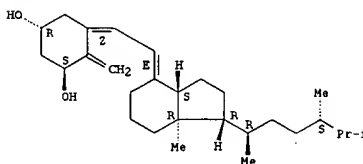
Absolute stereochemistry.  
Double bond geometry as shown.



RN 143032-85-3 CAPLUS  
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol, (1.alpha.,3.beta.,5Z,7E)-(9CI) (CA INDEX NAME)

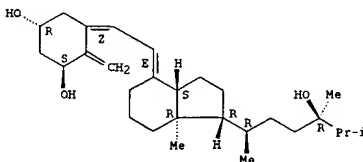
L13 ANSWER 4 OF 11 CAPLUS COPYRIGHT 1999 ACS (Continued)

Absolute stereochemistry.  
Double bond geometry as shown.



RN 157893-62-4 CAPLUS  
CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol, (1.alpha.,3.beta.,5Z,7E)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.



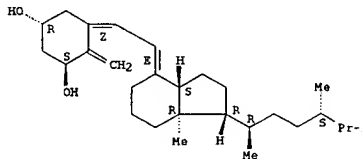
L13 ANSWER 5 OF 11 CAPLUS COPYRIGHT 1999 ACS  
 ACCESSION NUMBER: 1998:87379 CAPLUS  
 DOCUMENT NUMBER: 128:163243  
 TITLE: Growth inhibition and differentiation induction in human monoclastic leukemia cells by 1.alpha.-hydroxyvitamin D derivatives and their enhancement by combination with hydroxyurea  
 AUTHOR(S): Makishima, M.; Okabe-Kado, J.; Honma, Y.  
 CORPORATE SOURCE: Department of Chemotherapy, Saitama Cancer Center Research Institute, Saitama, 362, Japan  
 SOURCE: Br. J. Cancer (1998), 77(1), 33-39  
 CODEN: BJCAAI; ISSN: 0007-0920  
 PUBLISHER: Churchill Livingstone  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB The active form of vitamin D, 1.alpha.,25-dihydroxyvitamin D3 (1,25(OH)2D3), is a potent inducer of differentiation in myeloid leukemia cells, but its clin. use is limited because of its hypercalcemic activity. The authors examd. the ability of 1,25(OH)2D3 in combination with several anti-cancer drugs to inhibit the proliferation of, and induce differentiation in, human monoclastic leukemia U937 cells. Hydroxyurea (HU), cytarabine and camptothecin showed effective synergism with 1,25(OH)2D3 with regard to growth inhibition, while daunorubicin and etoposide had only modest synergistic effects. HU and cytarabine effectively enhanced nitroblue tetrazolium-reducing activity induced by 1,25(OH)2D3. HU also enhanced the morphol. maturation and expression of CD11b and CD14 in cells treated with 1,25(OH)2D3. Among the anticancer drugs examd., HU had the greatest synergistic effects with 1,25(OH)2D3 with regard to growth inhibition and differentiation induction in U937 cells. HU also enhanced the differentiation of other myeloid leukemia HL-60, ML-1, THP-1, P39/TSU, P31/FUJ and NB4 cells induced by 1,25(OH)2D3 and that of U937 cells induced by 24-epi-1,25(OH)2D2 and 1,25(OH)2D7. Interestingly, 1.alpha.(OH)D derivs. (1.alpha.-hydroxyvitamin D3, D2, D4 and D7) effectively induced the differentiation of monoclastic leukemia U937, P39/TSU and P31/FUJ cells. HU also enhanced the growth inhibition and differentiation of U937 cells induced by 1.alpha.(OH)D derivs. As 1.alpha.(OH)D derivs. preferentially act on monocytic cells, they may be

L13 ANSWER 6 OF 11 CAPLUS COPYRIGHT 1999 ACS  
 ACCESSION NUMBER: 1997:134848 CAPLUS  
 DOCUMENT NUMBER: 126:139903  
 TITLE: Use of vitamin D4 hydroxy derivatives for treating skin disorders, preparation, biological activity, and pharmaceutical and cosmetic compositions  
 INVENTOR(S): Knutson, Joyce C.; Bishop, Charles W.  
 PATENT ASSIGNEE(S): Bone Care International, Inc., USA  
 SOURCE: PCT Int. Appl., 41 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 10  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9640154	A1	19961219	WO 96-US9222	19960606
FI, MD, TJ, GR, ML,	W:	AM, AT, AU, BE, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TH, TT		
	RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, MR, NE, SN, TD, TG		
US 5763428	A	19980609	US 95-484342	19950607
AU 9662569	A1	19961230	AU 96-62569	19960606
EP 831838	A1	19980401	EP 96-921322	19960606
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE,		
FI	PRIORITY APPLN. INFO.:		US 95-484342	19950607
			US 90-586854	19900921
			US 91-800045	19911129
			US 92-886554	19920520
			US 94-265438	19940624
			WO 96-US9222	19960606
AB	1.alpha.-Hydroxyvitamin D4 (I) and analogs, including 1,25-dihydroxyvitamin D4 and 1,24-dihydroxyvitamin D4, are disclosed which are useful as active compds. of pharmaceutical compns. for the treatment of disorders of calcium metab. and various skin disorders (skin cancer, dermatitis, eczema, etc.). I was effective increasing serum calcium in vitamin D-deficient rats. Synthesis of I is described, as are pharmaceutical and cosmetic compns. contg. 1.alpha.,24-dihydroxyvitamin D4. Antiproliferative activity, as well as its use in treatment of osteoporosis and psoriasis, are described.			
IT	131249-38-2 143032-85-3 157893-62-4			

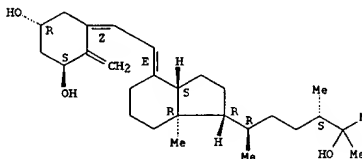
L13 ANSWER 5 OF 11 CAPLUS COPYRIGHT 1999 ACS (Continued)  
 useful in the treatment of acute monocytic leukemia, both alone and in combination with HU.  
 IT 143032-85-3, 1.alpha.-Hydroxyvitamin D4  
 RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (growth inhibition and differentiation induction in human monoclastic leukemia cells by hydroxyvitamin D derivs. enhancement by hydroxyurea)  
 RN 143032-85-3 CAPLUS  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol, (1.alpha.,3.beta.,5Z,7E)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.



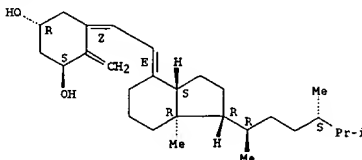
L13 ANSWER 6 OF 11 CAPLUS COPYRIGHT 1999 ACS (Continued)  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (vitamin D4 hydroxy derivs. for treating skin disorders, prepn., biol. activity, and pharmaceutical and cosmetic compns.)  
 RN 131249-38-2 CAPLUS  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,25-triol, (1.alpha.,3.beta.,5Z,7E)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.



RN 143032-85-3 CAPLUS  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol, (1.alpha.,3.beta.,5Z,7E)-(9CI) (CA INDEX NAME)

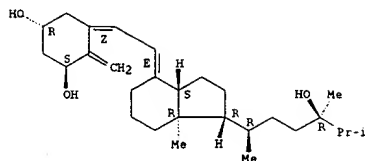
Absolute stereochemistry.  
 Double bond geometry as shown.



RN 157893-62-4 CAPLUS  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol, (1.alpha.,3.beta.,5Z,7E)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.

L13 ANSWER 6 OF 11 CAPLUS COPYRIGHT 1999 ACS (Continued)



L13 ANSWER 7 OF 11 CAPLUS COPYRIGHT 1999 ACS

ACCESSION NUMBER: 1997:132772 CAPLUS  
 DOCUMENT NUMBER: 126:139902  
 TITLE: Use of vitamin D4 hydroxy derivatives for treating cancer and disorders of calcium metabolism, preparation, biological activity, and pharmaceutical and cosmetic compositions  
 INVENTOR(S): Knutson, Joyce C.; Bishop, Charles W.  
 PATENT ASSIGNEE(S): Bone Care International, Inc., USA  
 SOURCE: PCT Int. Appl., 38 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 10  
 PATENT INFORMATION:

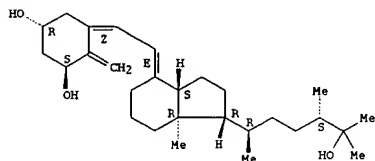
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9640153	A1	19961219	WO 96-US9221	19960606
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5798345	A	19980825	US 95-486387	19950607
AU 9663791	A1	19961230	AU 96-63791	19960606
EP 831839	A1	19980401	EP 96-923223	19960606
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI				
PRIORITY APPLN. INFO.:			US 95-486387	19950607
			US 90-586854	19900921
			US 91-800045	19911129
			US 92-886554	19920520
			US 94-265438	19940524
			WO 96-US9221	19960606

AB 1.alpha.-Hydroxyvitamin D4 (I) and analogs, preferably 1,24-dihydroxyvitamin D4, are disclosed which are useful as active compds. of pharmaceutical compns. for the treatment of disorders of calcium metab. and breast and colon cancers. I was effective increasing serum calcium in vitamin D-deficient rats. Synthesis of I is described, as are pharmaceutical and cosmetic compns. contg. 1.alpha.,24-dihydroxyvitamin D4. Antiproliferative activity, as well as its use in treatment of

L13 ANSWER 7 OF 11 CAPLUS COPYRIGHT 1999 ACS (Continued)

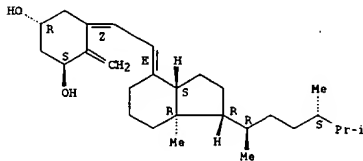
osteoporosis and psoriasis, are described.  
 IT 131249-38-2 143032-85-3 157893-62-4  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (Vitamin D4 hydroxy derivs. for treating cancer and disorders of calcium metab., prepn., biol. activity, and pharmaceutical and cosmetic compns.)  
 RN 131249-38-2 CAPLUS  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,25-triol,  
 (1.alpha.,3.beta.,5Z,7E)-  
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.



RN 143032-85-3 CAPLUS  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol,  
 (1.alpha.,3.beta.,5Z,7E)-  
 (9CI) (CA INDEX NAME)

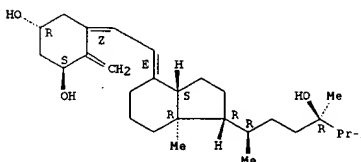
Absolute stereochemistry.  
 Double bond geometry as shown.



RN 157893-62-4 CAPLUS  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol,  
 (1.alpha.,3.beta.,5Z,7E)-  
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.

L13 ANSWER 7 OF 11 CAPLUS COPYRIGHT 1999 ACS (Continued)



L13 ANSWER 9 OF 11 CAPLUS COPYRIGHT 1999 ACS  
 ACCESSION NUMBER: 1997:128093 CAPLUS  
 DOCUMENT NUMBER: 126:148535  
 TITLE: Method for treating and preventing secondary hyperparathyroidism  
 INVENTOR(S): Knutson, Joyce C.; Bishop, Charles W.; Mazess, Richard  
 PATENT ASSIGNEE(S): Bone Care International, Inc., USA  
 SOURCE: U.S., 8 pp. Cont.-in-part of U.S. 5, 403, 831.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 10  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5602116	A	19970211	US 95-415488	19950403
US 5104864	A	19920414	US 90-569412	19900817
US 5403831	A	19950404	US 93-119895	19930910
WO 9631215	A1	19961010	WO 96-US4553	19960403
W: AU, BR, CA, CN, FI, HU, JP, KR, MX, NO, NZ, PL, SG				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GE, GR, IE, IT, LU, MC, NL,				
PT, SE				
CA 2217260	AA	19961010	CA 96-2217260	19960403
AU 9653840	A1	19961023	AU 96-53840	19960403
EP 820290	A1	19980128	EP 96-910720	19960403
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE,				
FI				
BR 9604940	A	19980609	BR 96-4940	19960403
CN 1185109	A	19980617	CN 96-194098	19960403
US 5763429	A	19980609	US 96-781910	19961230
US 5707980	A	19980113	US 97-798958	19970211
US 5861386	A	19990119	US 97-907658	19970808
NO 9704480	A	19971114	NO 97-4480	19970929
FI 9703868	A	19971002	FI 97-3868	19971002
PRIORITY APPLN. INFO.:				
US 88-227371 19880802				
US 90-569412 19900817				
US 92-812056 19920305				
US 93-119895 19930910				
US 91-812056 19911217				
US 94-265438 19940624				
US 95-415488 19950403				
US 95-486387 19950607				
WO 96-US4553 19960403				
US 97-798958 19970211				

AB A method for preventing loss of bone mass or bone mineral content in a human being suffering from secondary hyperparathyroidism by administering a sufficient amt. of 1.alpha.-OH vitamin D2, 1.alpha.,24(S)-(OH)2 vitamin

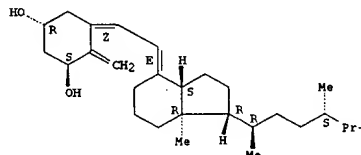
L13 ANSWER 9 OF 11 CAPLUS COPYRIGHT 1999 ACS  
 ACCESSION NUMBER: 1996:710533 CAPLUS  
 DOCUMENT NUMBER: 125:317372  
 TITLE: Use of vitamin D2 or vitamin D4 derivatives for the treatment of secondary hyperparathyroidism  
 INVENTOR(S): Knutson, Joyce C.; Mazess, Richard B.; Bishop, Charles W.  
 PATENT ASSIGNEE(S): Bone Care International, Inc., USA  
 SOURCE: PCT Int. Appl., 30 pp  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 10  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9631215	A1	19961010	WO 96-US4553	19960403
W: AU, BR, CA, CN, FI, HU, JP, KR, MX, NO, NZ, PL, SG				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,				
PT, SE				
US 5602116	A	19970211	US 95-415488	19950403
AU 9653840	A1	19961023	AU 96-53840	19960403
EP 820290	A1	19980128	EP 96-910720	19960403
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE,				
FI				
BR 9604940	A	19980609	BR 96-4940	19960403
NO 9704480	A	19971114	NO 97-4480	19970929
FI 9703868	A	19971002	FI 97-3868	19971002
PRIORITY APPLN. INFO.:				
US 95-415488 19950403				
US 88-227371 19880802				
US 90-569412 19900817				
US 92-812056 19920305				
US 93-119895 19930910				
WO 96-US4553 19960403				

AB A method for preventing loss of bone mass or bone mineral content in a human being suffering from secondary hyperparathyroidism comprises administering a sufficient amt. of 1.alpha.-OH vitamin D2, 1.alpha.,24(S)-(OH)2 vitamin D2, 1.alpha.-OH vitamin D4, or 1.alpha.,24(R)-(OH)2 vitamin D4. Treatment of patients undergoing chronic hemodialysis with two consecutive 12 wk courses of therapy with 4 .mu.g/day 1.alpha.-OH vitamin D2 decreased the serum parathyroid hormone level to 50% of the pretreatment level.  
 IT 143032-85-3, 1.alpha.-Hydroxy vitamin D4 157893-62-4  
 RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (use of vitamin D2 or vitamin D4 deriva. for treatment of secondary hyperparathyroidism)  
 RN 143032-85-3 CAPLUS  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol, (1.alpha.,3.beta.,5Z,7E)-

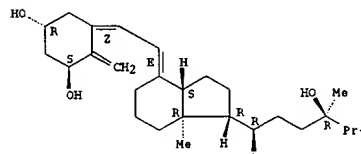
L13 ANSWER 8 OF 11 CAPLUS COPYRIGHT 1999 ACS (Continued)  
 D2, 1.alpha.-OH vitamin D4 or 1.alpha.,24(R)-(OH)2 vitamin D4 was reported.  
 IT 143032-85-3, 1.alpha.-Hydroxy vitamin D4 157893-62-4  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (vitamin D formulations for treating and preventing secondary hyperparathyroidism)  
 RN 143032-85-3 CAPLUS  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol, (1.alpha.,3.beta.,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.



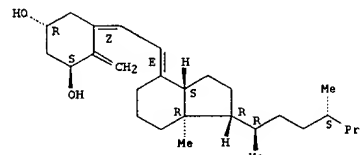
RN 157893-62-4 CAPLUS  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol, (1.alpha.,3.beta.,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.



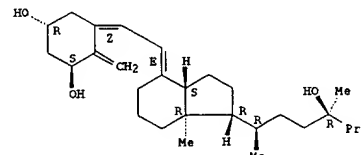
L13 ANSWER 9 OF 11 CAPLUS COPYRIGHT 1999 ACS (Continued)  
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.



RN 157893-62-4 CAPLUS  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol, (1.alpha.,3.beta.,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.



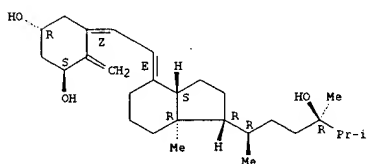
L13 ANSWER 10 OF 11 CAPLUS COPYRIGHT 1999 ACS  
 ACCESSION NUMBER: 1996:447075 CAPLUS  
 DOCUMENT NUMBER: 125:123721  
 TITLE: Oral 1.alpha.-hydroxyvitamin D  
 INVENTOR(S): Knutson, Joyce C.; Valliere, Charles R.; Bishop, Charles W.  
 PATENT ASSIGNEE(S): Lunar Corp., USA  
 SOURCE: U.S., 12 pp. Cont.-in-part of U.S. Ser. No. 901,886,  
 abandoned.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 4  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5529991	A	19960625	US 94-196116	19940222
US 5622941	A	19970422	US 94-188942	19940126
US 5614513	A	19970325	US 95-485354	19950607
AU 9660608	A1	19961003	AU 96-60608	19960722
US 5795882	A	19980918	US 96-775447	19961230
			US 92-901886	19920622
			US 94-196116	19940222
			US 95-485354	19950607

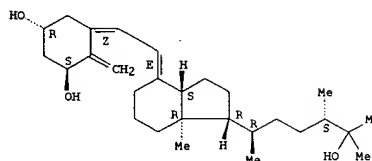
OTHER SOURCE(S): MARPAT 125:123721  
 AB An enteric-coated sustained-release oral dosage form for vitamin D for treatment of osteoporosis and psoriasis and prevention of hypocalcemia and bone loss in hemodialysis is claimed. The compn. comprises a matrix contg. an activated vitamin D or 1.alpha.-hydroxy vitamin D coated with cellulose acetate phthalate or an acrylic polymer of Budragit type.  
 IT 131249-38-2, 1.alpha.,25-Dihydroxy vitamin D4 143032-85-3  
 , 1.alpha.-Hydroxy vitamin D4 157893-62-4  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (enteric-coated sustained-release oral dosage forms for vitamin D)  
 RN 131249-38-2 CAPLUS  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,25-triol, (1.alpha.,3.beta.,5Z,7E) -  
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.

L13 ANSWER 10 OF 11 CAPLUS COPYRIGHT 1999 ACS (Continued)

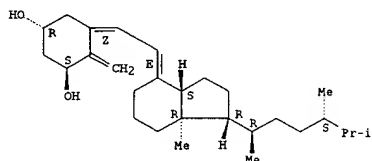


L13 ANSWER 10 OF 11 CAPLUS COPYRIGHT 1999 ACS (Continued)



RN 143032-85-3 CAPLUS  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3-diol, (1.alpha.,3.beta.,5Z,7E) -  
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.



RN 157893-62-4 CAPLUS  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24-triol, (1.alpha.,3.beta.,5Z,7E) -  
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.

L13 ANSWER 11 OF 11 CAPLUS COPYRIGHT 1999 ACS

ACCESSION NUMBER: 1994:107472 CAPLUS  
 DOCUMENT NUMBER: 120:107472  
 TITLE: Preparation of vitamin D derivatives  
 INVENTOR(S): Yokoyama, Shinji; Tejima, Takeshi; Tachibana, Yoji  
 PATENT ASSIGNEE(S): Nissin Flour Milling Co, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.  
 CODEN: JKKXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05163238	A2	19930629	JP 91-333057	19911217

OTHER SOURCE(S): CASREACT 120:107472  
 AB Vitamin D derivs. [I; R1 = Me, R2 = H; R1 = H, R2 = Me], useful in treating bone metabolic disorders (no data), are prepd. by a simplified scheme via a 4-phenyl-1,2,4-triazoline-3,5-dione-protected intermediate.  
 Reaction of ergosterol with 4-phenyl-1,2,4-triazoline-3,5-dione in CH2Cl2 followed by silylation with Me3CSiMe2Cl gave silyl ether II. II was further reacted in 8 steps to give III, which was heated in HOAc at 55.degree. to give a 3.beta.-acetate 25-triethylsilyl ether deriv., which was then desilylated with 1M Bu4N<sup>+</sup> F<sup>-</sup> in THF at 50.degree. and saponified with ethanolic KOH to give (24S)-I (R1 = H, R2 = Me).

IT 131249-38-2P  
 RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses) (prepn. of, for treatment of bone disease)

RN 131249-38-2 CAPLUS  
 CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,25-triol, (1.alpha.,3.beta.,5Z,7E) -  
 (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.

